

We claim:

1. A broadcast receiving system comprising:

a high frequency amplifier circuit which receives and amplifies a broadcasting radio wave corresponding to a desired frequency and which provides an amplified output;

a local oscillator circuit which produces and outputs in a PLL circuit a local oscillation signal having a local oscillation frequency corresponding to the desired frequency of the broadcasting radio wave;

a mixing circuit which mixes the output provided from the high frequency amplifier circuit with the local oscillation signal provided from the local oscillator circuit to make conversion into an intermediate frequency signal and which outputs the intermediate frequency signal;

a variable filter circuit which allows the intermediate frequency signal to pass therethrough, the variable filter circuit having a band-pass filter circuit which limits the frequency band of the signal passing therethrough and a switching circuit capable of switching whether the intermediate frequency signal outputted from the mixing circuit is to pass through or bypass the band-pass filter;

an SAW filter which allows the intermediate frequency signal having passed through the variable filter circuit to

pass therethrough;

an intermediate frequency amplifier circuit for intermediate frequency amplification of the intermediate frequency signal having passed through the SAW filter;

a VCO circuit which generates an oscillation signal and which can change the oscillation frequency of the oscillation signal;

a detector circuit which, on the basis of the oscillation frequency of the oscillation signal, detects the intermediate frequency signal amplified by the intermediate frequency amplifier circuit and which outputs a video signal and an audio signal; and

a microcomputer which, when receiving a broadcasting radio wave in voice FM broadcast, makes control for causing the switching circuit to switch over to the side where the intermediate frequency signal is allowed to pass through the band-pass filter circuit and for causing the VCO circuit to change the oscillation frequency of the oscillation signal into an oscillation frequency corresponding to the broadcasting radio wave in the voice FM broadcast.

2. A broadcast receiving system according to claim 1, wherein:

the high frequency amplifier circuit, the local

oscillator circuit, the mixing circuit, and the variable filter circuit are provided in a tuner IC which is connected to the microcomputer;

the intermediate frequency amplifier circuit, the detector circuit, and the VCO circuit are provided in a chroma IC which is connected not only to the microcomputer but also to the tuner IC through an SAW filter;

a crystal oscillator circuit which generates a reference oscillation signal of a predetermined oscillation frequency and which amplifies and outputs the reference oscillation signal through an emitter follower circuit, and a series resonance circuit connected to the crystal oscillator circuit and having a resonance frequency nearly equal to the predetermined oscillation frequency of the reference oscillation signal, are provided;

the VCO circuit produces the oscillation signal in accordance with the reference oscillation signal outputted from the crystal oscillator circuit; and

the local oscillator circuit acquires the reference oscillation signal through the series resonance circuit and produces the local oscillation signal in accordance with the reference oscillation signal.

3. A broadcast receiving system comprising:

a tuner means which receives a broadcasting radio

wave corresponding to a desired frequency and which converts it into an intermediate frequency signal and outputs the intermediate frequency signal;

a variable filter means which allows the intermediate frequency signal outputted from the tuner means to pass therethrough and which can change a limitation on the frequency band of the intermediate frequency signal passing therethrough;

a variable oscillator means which generates an oscillation signal and which can change the oscillation frequency of the oscillation signal;

an amplifier/detector means which, in accordance with the oscillation frequency of the oscillation signal, subjects the intermediate frequency signal having passed through the variable filter means to intermediate frequency amplification and detection and which outputs a video signal and an audio signal; and

a control means which, in accordance with the type of the received broadcasting radio wave, makes control to let the variable filter means limit the frequency band of the intermediate frequency signal passing therethrough and let the variable oscillator means change the oscillation frequency of the oscillation signal.

4. A broadcast receiving system according to claim 3,

wherein:

when receiving a broadcasting radio wave in voice FM broadcast, the control means makes control to let the variable filter means limit the frequency band and let the variable oscillator means change the oscillation frequency of the oscillation signal into an oscillation frequency corresponding to the broadcasting radio wave in voice FM broadcast.

5. A broadcast receiving system according to claim 3, wherein:

the variable filter means is provided with a band-pass filter circuit which limits the frequency band of a signal passing therethrough and a switching circuit capable of switching whether the intermediate frequency signal is to pass through or bypass the band-pass filter circuit; and

the control means makes control to let the switching circuit switch whether the intermediate frequency signal is to pass through or bypass the band-pass filter circuit, in accordance with the type of the received broadcasting radio wave.

6. A broadcast receiving system according to claim 5, wherein:

when receiving a broadcasting radio wave in voice FM broadcast, the control means makes control to let the

switching circuit switch the intermediate frequency signal to the side where the signal is allowed to pass through the band-pass filter circuit.

7. A broadcast receiving system according to claim 3, wherein:

the tuner means is provided with a local oscillator means which produces and outputs in a PLL circuit a local oscillation signal of a local oscillation frequency corresponding to a desired frequency of the broadcasting radio wave and is also provided with a mixing circuit which amplifies the inputted broadcasting radio wave and which mixes the thus-amplified signal with the local oscillation signal outputted from the local oscillator means to make conversion into an intermediate frequency signal, the mixing circuit then outputting the intermediate frequency signal to the variable filter means.

8. A broadcast receiving system according to claim 7, wherein:

the tuner means and the variable filter means are provided in a tuner IC;

the amplifier/detector means and the variable oscillator means are provided in a chroma IC which is connected to the tuner IC through an SAW filter; and

the control means is provided in a microcomputer

which is connected to both the tuner IC and the chroma IC.

9. A broadcast receiving system according to claim 7,
wherein:

a crystal oscillator circuit for generating a
reference oscillation signal of a predetermined oscillation
frequency is provided;

the variable oscillator means produces the
oscillation signal in accordance with the reference
oscillation signal provided from the crystal oscillator
circuit; and

the local oscillator means produces the local
oscillation signal in accordance with the reference
oscillation signal.

10. A broadcast receiving system according to claim 9,
wherein:

a resonance circuit is provided which is connected to
the crystal oscillator circuit and whose resonance
frequency is almost equal to the predetermined oscillation
frequency of the resonance oscillation signal; and

the local oscillator means acquires the reference
oscillation signal through the resonance circuit.

11. A broadcast receiving system according to claim 9,
wherein:

the crystal oscillator circuit is provided with an

emitter follower circuit which amplifies the reference oscillation signal and which outputs the thus-amplified signal.

12. A broadcast receiving method comprising:

receiving a broadcasting radio wave corresponding to a desired frequency and converting it into an intermediate frequency signal by means of a tuner;

allowing the intermediate frequency signal to pass through a variable filter which can change a limitation on the frequency band of the signal passing therethrough;

subjecting the intermediate frequency signal having passed through the variable filter to intermediate frequency amplification and simultaneous detection in accordance with an oscillation frequency provided from a variable oscillator which can change the oscillation frequency of an oscillation signal; and

outputting a video signal and an audio signal,

wherein according to the type of the received broadcasting radio wave there is made control to limit the frequency band of the intermediate frequency signal passing through the variable filter and let the variable oscillator change the oscillation frequency of the oscillation signal.

13. A medium storing a broadcast reception control program, the broadcast reception control program being used in:

receiving a broadcasting radio wave corresponding to a desired frequency, converting it into an intermediate frequency signal by means of a tuner, allowing the intermediate frequency signal to pass through a variable filter which can change a limitation on the frequency band of the signal passing therethrough, subjecting the intermediate frequency signal having passed through the variable filter to intermediate frequency amplification and simultaneous detection in accordance with an oscillation frequency provided from a variable oscillator which can change the oscillation frequency of an oscillation signal, and outputting a video signal and an audio signal,

wherein a computer is allowed to implement a function of making control to let the variable filter limit the frequency band of the intermediate frequency signal passing therethrough and let the variable oscillator change the oscillation frequency of the oscillation signal.